

CUSTOMER NO.: 24498  
Serial No.: 10/530,881  
Notice of Appeal dated: 01/22/09  
Appeal Brief dated: 04/07/09

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PATENT  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**Before the Board of Patent Appeals and Interferences**

In re Application of : Jens Spille et al.  
Serial No. : 10/530,881  
Filing Date : April 11, 2005  
Title : METHOD FOR CODING AND DECODING  
THE WIDENESS OF A SOUND SOURCE IN  
AN AUDIO SCENE  
Art Unit : 2614  
Examiner : Ping Lee  
Confirmation No. : 9230

**APPEAL BRIEF**  
**On Appeal from Group Art Unit 2614**

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P.O. Box 1450  
Alexandria, Virginia 22313-1450

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**May It Please The Honorable Board:**

This Appeal Brief is submitted in support of the Notice of Appeal, filed January 22, 2009, and in response to the Advisory Action, dated January 9, 2009, and Final Office Action, dated October 22, 2008. Since the due date for filing this Appeal Brief was March 22, 2009, a Petition for a One-Month Extension is requested.

Please charge the \$540 fee for the filing of the Brief, the \$130 for the One-Month Extension, and any other costs that may be due, to Deposit Account No. 07-0832.

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**CERTIFICATE OF MAILING**

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April 7, 2009  
Date

Patricia M. Fedorowycz  
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**TABLE OF CONTENTS**

	<b><u>Page No.</u></b>
I. REAL PARTY IN INTERST .....	3
II. RELATED APPEALS AND INTERFERENCES.....	3
III. STATUS OF CLAIMS.....	3
IV. STATUS OF AMENDMENTS.....	3
V. SUMMARY OF CLAIMED SUBJECT MATTER.....	4
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL.....	5
VII. ARGUMENT.....	5
VIII. CLAIMS APPENDIX.....	11
IX. EVIDENCE APPENDIX.....	14
X. RELATED PROCEEDINGS APPENDIX.....	15

## **I. REAL PARTY IN INTEREST**

The real party in interest of Application Serial No. 10/530,881 is the the assignee of record at Reel/Frame: 016920/0348:

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## **II. RELATED APPEALS AND INTERFERENCES**

Appellants are not aware of any pending appeals, judicial proceedings, or interferences which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

## **III. STATUS OF CLAIMS**

- a) Claims 1-15, 18 and 24 are cancelled.
- b) Claims 16, 17, 19-23 and 25-29 are pending; Claims 16, 22, 28 and 29 being independent.
- c) Claims 16, 17, 19-23 and 25-29 stand rejected and are the subject of this appeal.

## **IV. STATUS OF AMENDMENTS**

The claims listed in section "VIII. Claims Appendix" of this Appeal Brief correspond to the claims submitted in Appellants' response of December 19, 2008. No claim amendments have been submitted following Appellants' response of December 19, 2008. Nor are any amendments pending.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

It should be explicitly noted that it is not the Appellants' intention that the currently claimed or described embodiments be limited to operation within the illustrative embodiments described below beyond what is required by the claim language. Further description of the illustrative embodiments are provided indicating portions of the claims which cover the illustrative embodiments merely for compliance with requirements of this appeal without intending to read any further interpreted limitations into the claims as presented.

The claimed invention, as recited in claim 16, is directed to a method for coding a presentation description of an audio signal (page 3, line 33 to page 12; see particularly table 4 and page 9, line 8 to page 12), comprising: assigning a value to a first non-point sound source using said audio signal; generating for said first non-point sound source a parametric description, said parametric description including said assigned value in a field specifying decorrelation information (table 4 and page 9, line 8 to page 12); incrementing said value for an additional non-point sound source using the same audio signal; and generating, for said additional non-point sound source, a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source.

The claimed invention, as recited in claim 22, is directed to a method for decoding a presentation description of an audio signal (page 3, line 33 to page 12; see particularly table 4 and page 9, line 8 to page 12), comprising: receiving a parametric description of a first non-point sound source, wherein said parametric description includes a value in a field specifying decorrelation information; selecting, depending on said value a decorrelation for said non-point sound source; receiving a parametric description of an additional non-point sound source using the same audio signal, wherein said parametric description includes an incremented value in a field specifying decorrelation information; and selecting, depending on said incremented value, a different decorrelation for the additional non-point sound source (table 4 and page 9, line 8 to page 12).

The claimed invention, as recited in claim 28, is directed to an apparatus for coding a presentation description of an audio signal (page 3, line 33 to page 12; see particularly table 4 and page 9, line 8 to page 12), comprising: means for assigning a value to a first non-point

sound source using said audio signal; means for generating for said first non-point sound source a parametric description, said parametric description including said assigned value in a field specifying decorrelation information; means for incrementing said value for an additional non-point sound source using the same audio signal; and means for generating for said additional non-point sound source a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source (table 4 and page 9, line 8 to page 12).

An apparatus for decoding a presentation description of an audio signal (page 3, line 33 to page 12; see particularly table 4 and page 9, line 8 to page 12), comprising: means for receiving a parametric description of a first non-point sound source, wherein said parametric description includes a value in a field specifying decorrelation information; means for selecting depending on said value a decorrelation for said non-point sound source; means for receiving a parametric description of an additional non-point sound source using the same audio signal, wherein said parametric description includes an incremented value in a field specifying decorrelation information; and means for selecting depending on said incremented value a different decorrelation for the additional non-point sound source (table 4 and page 9, line 8 to page 12).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Whether claims 16, 17, 19-23, and 25-29 are properly rejected under 35 USC 103(a) as being unpatentable over Potard et al. (hereinafter Potard) “Using XML Schemas to Create and Encode Interactive 3-D Audio Scenes for Multimedia and Virtual Reality Applications”.

## **VII. ARGUMENT**

Appellants respectfully traverse the rejections in accordance with the detailed arguments set forth below.

**A. Claims 16, 17, 19-23, and 25-29 are not properly rejected under 35 U.S.C. §103(a) as being unpatentable over Potard.**

**1. Claim 16**

It is respectfully submitted that the Examiner has failed to establish a prima facie case of obviousness. The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. 103 is set forth in MPEP § 706.02(j):

“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

If the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention as recited in claim 16 is distinguishable over the cited reference and the rejections should be reversed.

For example, claim 16 in part recites:

“assigning a value to a first non-point sound source using said audio signal” and “incrementing said value for an additional non-point sound source using the same audio signal; and generating, for said additional non-point sound source, a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source” (emphasis added).

As a non-limiting example, one skilled in the art would understand that claim 16 provides starting with a certain value for a first non-point sound source and incrementing the value for an additional non-point sound source. This is shown in the BIFS example provided in table 4 of Appellants’ specification where for the first sound box the diffuse select parameter starts with 1, for the next sound box this diffuse select parameter is incremented to



2, and for the third sound box it is incremented to 3. The claimed features are not at all disclosed by Potard.

Furthermore, according to Appellants' features a first non-point sound source and an additional non-point sound source both are using the same audio signal and are having different decorrelations specified.

In contrast to Appellants' claim 16, Potard does not even suggest the need to apply a decorrelation where the same audio signal is used for more than one non-point sound source. Potard in section 2.3.1 only discloses macro-objects, which relate to the repetition of an object after some transformation (for example pitch). According to Potard a group of choristers is created from the same singer-object by repeating it several times after a pitch transformation is applied.

While it is argued in the Office Action that assigning different positions to different objects, as disclosed by Potard, would correspond to assigning different decorrelations, Appellants still respectfully disagree that the above claimed features are suggested by Potard. As mentioned before, the only purpose of the parameters described by Potard is to define the objects position as correctly as possible, for example the group of choristers as discussed above. However, Potard does not mention or suggest that the parameters are for assigning one of several decorrelations.

Furthermore, in the Final Office Action (page 3), the Examiner admits that Potard fails to show the changed value for an additional non-point sound source is incrementing the value. The Examiner asserts that it would be obvious to increment or decrement a value to create a sound scene and would simply be a matter of design choice. However, the claimed invention recites more than incrementing or decrementing a value, as shown above, claim 16 recites incrementing said value for an additional non-point sound source using the same audio signal; and generating, for said additional non-point sound source, a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source. The Office Action fails to provide any factual support for this conclusory statement that the features lacking in Potard are simply a matter of design choice.

Even if, for argument sake, Potard teaches that pitch transformation is applied to each non-point sound source (a position Appellants do not agree with), Potard does not suggest incrementing said value for an additional non-point sound source using the same audio signal

and including the incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source.

Simply concluding that these features would be obvious based on Potard does not meet the requirements of KSR where the Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

Potard does not even suggest the need to apply a decorrelation where the same audio signal is used for more than one non-point sound source. Potard in section 2.3.1 only discloses macro-objects, which relate to the repetition of an object after some transformation (for example pitch). According to Potard a group of choristers is created from the same singer-object by repeating it several times after a pitch transformation is applied. In contrast, according to Appellants' feature a first non-point sound source and an additional non-point sound source both are using the same audio signal and are having different decorrelations specified. Potard does not mention or even suggest that the parameters are for assigning one of several decorrelations.

All the more, Potard does not at all suggest to transmit only an information to apply different decorrelations, i.e. an information to apply a decorrelation (whatever the specific form of this decorrelation may be) for a first non-point sound source and to apply a different decorrelation (again, whatever the specific form of this second decorrelation may be) for a second non-point sound source. Such a transmission of only an information to apply different decorrelations (in contrast to transmitting specific different decorrelations) gives the maximum flexibility at the receiving end and thus e.g. allows player/receiver manufacturers to optimize the selection of the applied specific decorrelation functions.

In the Advisory Action, the Examiner is apparently equating members of a choir singing the same song and each member singing the same note as being equivalent to the same audio signal. Appellants point out that different members of a choir, even if singing the same note would not have the same audio signal.

Appellants respectfully submit that for at least the above mentioned reasons Potard fails to render obvious the claimed invention as recited in claim 16, which is therefore distinguishable over the cited reference and the rejection should be reversed.



## **2. Claims 17 and 19-21**

Claims 17 and 19-21 depend from claim 16 and include at least the above distinguishing features discussed with regard to claim 16. Each dependent claim also includes additional features. Appellants essentially repeat the above discussion of claim 16 for each dependent claim and further points out that Potard fails to disclose the additional features recited in claims 17 and 19-21. Accordingly, the rejection should be reversed.

## **3. Claim 22**

Independent claim 22 is directed to a method for decoding a presentation description of an audio signal. Claim 22 includes in part: receiving a parametric description of a first non-point sound source, wherein said parametric description includes a value in a field specifying decorrelation information; selecting, depending on said value a decorrelation for said non-point sound source; receiving a parametric description of an additional non-point sound source using the same audio signal, wherein said parametric description includes an incremented value in a field specifying decorrelation information; and selecting, depending on said incremented value, a different decorrelation for the additional non-point sound source.

On pages 2 and 3 of the final Office Action the Examiner rejects claim 22 by utilizing the same discussion of claim 16. On page 4 of the final Office action the Examiner also points to Figs. 6 and 7 of Potard. Because the Examiner applied substantially the same arguments to claim 22 as utilized for claim 16, Appellants essentially repeat the above arguments from claim 16 pointing out why claim 22 is not rendered obvious and is therefore distinguishable over Potard. Thus, the rejection should be reversed.

## **4. Claims 23 and 25-27**

Claims 23 and 25-27 depend from claim 22 and include at least the distinguishing features recited in claim 22. Each dependent claim also includes additional features. Appellants essentially repeat the above discussion of claims 22 and 16 and further points out that Potard fails to disclose the additional features recited in claims 23 and 25-27. Accordingly, the rejection should be reversed.

### 5. Claim 28

Independent claim 28 is directed to an apparatus for coding a presentation description of an audio signal. The features of claim 28 are similar to those discussed above with regard to claim 16.

On pages 2 and 3 of the Final Office Action the Examiner rejects claim 28 by utilizing the same discussion of claim 16. Because the Examiner applied the same arguments to claim 28 as applied to claim 16, Appellants essentially repeat the above arguments from claim 16 pointing out why claim 28 is not rendered obvious and is therefore distinguishable over Potard. Thus, the rejection should be reversed.

### 6. Claim 29

Independent claim 29 is directed to an apparatus for decoding a presentation description of an audio signal.

On page 4 of the Final Office Action, the Examiner rejects claim 29 by pointing to Figs 6 and 7, Table 1 and sect 3.1 of Potard. Because the Examiner applied similar arguments to claim 29 as applied to claim 16, Appellant essentially repeat the above arguments from claim 16 pointing out why claim 29 is not rendered obvious and is therefore distinguishable over Potard. Thus, the rejection should be reversed.

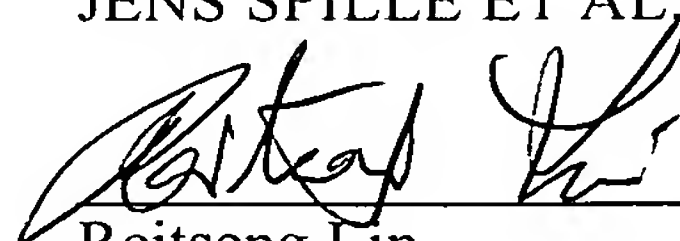
### CONCLUSION

In light of the above, Appellants respectfully submit that the rejections of claims 16, 17, 19-23, and 25-29 are in error, legally and factually, and must be reversed.

Respectfully submitted,

JENS SPILLE ET AL

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April 7, 2009

## **VIII. CLAIMS APPENDIX**

1.-15. (cancelled)

16.(previously presented) Method for coding a presentation description of an audio signal, comprising:

- assigning a value to a first non-point sound source using said audio signal;
- generating for said first non-point sound source a parametric description, said parametric description including said assigned value in a field specifying decorrelation information;
- incrementing said value for an additional non-point sound source using the same audio signal; and
- generating, for said additional non-point sound source, a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source.

17.(previously presented) Method according to claim 16, wherein separate sound sources are coded as separate audio objects and the arrangement of the sound sources in a sound scene is described by a scene description having first nodes corresponding to the separate audio objects and second nodes describing the presentation of the audio objects and wherein a second node describes the wideness of a non-point sound source and defines the presentation of said non-point sound source by multiple decorrelated point sound sources.

18.(cancelled)

19.(previously presented) Method according to claim 16 , wherein the size of the defined shape is given by parameters in a 3D coordinate system.

20.(previously presented) Method according to claim 19, wherein the size of the defined shape is given by an opening-angle having a vertical and a horizontal component.

21.(previously presented) Method according to claim 16, wherein a complex shaped non-point sound source is divided into several non-point sound sources each having a shape approximating a part of said complex shaped non-point sound source and wherein the same audio signal is used for each of said several non-point sound sources.

22.(previously presented) Method for decoding a presentation description of an audio signal, comprising:

- receiving a parametric description of a first non-point sound source, wherein said parametric description includes a value in a field specifying decorrelation information;

- selecting, depending on said value a decorrelation for said non-point sound source;

- receiving a parametric description of an additional non-point sound source using the same audio signal, wherein said parametric description includes an incremented value in a field specifying decorrelation information; and

- selecting, depending on said incremented value, a different decorrelation for the additional non-point sound source.

23.(previously presented) Method according to claim 22, wherein audio objects representing separate sound sources are separately decoded and a single soundtrack is composed from the decoded audio objects using a scene description having first nodes corresponding to the separate audio objects and second nodes describing the processing of the audio objects, and wherein a second node describes the wideness of a non-point sound source and defines the presentation of said non-point sound source by means of multiple decorrelated point sound sources emitting decorrelated signals.

24.(cancelled)

25.(previously presented) Method according to claim 22 , wherein the size of the defined shape is determined using parameters in a 3D coordinate system.

26.(previously presented) Method according to claim 25, wherein the size of the defined shape is determined using an opening-angle having a vertical and a horizontal component.

27.(previously presented) Method according to claim 22, wherein several non-point sound sources shapes each having a shape approximating a part of a complex shaped non-point sound source are combined to generate an approximation of said complex shaped non-point sound source and wherein the same audio signal is used for each of said several non-point sound sources.

28.(previously presented) Apparatus for coding a presentation description of an audio signal, comprising:

- means for assigning a value to a first non-point sound source using said audio signal;
- means for generating for said first non-point sound source a parametric description, said parametric description including said assigned value in a field specifying decorrelation information;

- means for incrementing said value for an additional non-point sound source using the same audio signal; and

- means for generating for said additional non-point sound source a parametric description, said parametric description including said incremented value in a field specifying decorrelation information to specify a different decorrelation for said additional non-point sound source.

29.(previously presented) Apparatus for decoding a presentation description of an audio signal, comprising:

- means for receiving a parametric description of a first non-point sound source, wherein said parametric description includes a value in a field specifying decorrelation information;

- means for selecting depending on said value a decorrelation for said non-point sound source;

- means for receiving a parametric description of an additional non-point sound source using the same audio signal, wherein said parametric description includes an incremented value in a field specifying decorrelation information; and

- means for selecting depending on said incremented value a different decorrelation for the additional non-point sound source.



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## **IX. EVIDENCE APPENDIX**

No evidence has been submitted pursuant to §§ 1.130, 1.131, or 1.132 of this title nor any other evidence entered by the examiner and relied upon by Appellants in the appeal.

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PATENT  
PD020100

**X. RELATED PROCEEDINGS APPENDIX**

Appellants are not aware of any appeals or interferences related to the present application.